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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,455	01/15/2004	Khiem Le	059864.01182	5064

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SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER	
CHEEMA, UMAR	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/757,455	LE, KHIEM	
	Examiner	Art Unit	
	Umar Cheema	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al (Jonsson) (US Patent # 6,970,476) in view of Banerji et al (Banerji) (US 2003/0012278).

Regarding claim 1, Jonsson discloses substantially the invention as claimed a method

of optimizing the compression efficiency in a packet data communication where a compression history of previous packets is used for the compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the method comprising:

updating the compression history selectively, wherein selection is performed based on a first algorithm for determining whether a packet shall be compressed, and on a second algorithm for determining whether a compressed packet shall be used for an update of the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).

Jonsson does not explicitly discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the

similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 2, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor is by using Transmission Control Protocol, wherein the compressor monitors an acknowledgment signaling of a Transmission Control Protocol receiving means (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

Regarding claim 3, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using a feedback between the compressor and the decompressor (see Jonsson: col. 10, lines 5-9; Banerji: see par. 0010-0011).

Regarding claim 4, the combination of Jonsson and Banerji disclose the method according to claim 2, further comprising: enabling the compressor to safely infer a subset of a first context at the decompressor by monitoring the Transmission Control Protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

Regarding claim 5, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by combining use of Transmission Control Protocol, wherein the compressor monitors an acknowledgment signaling of a Transmission Control Protocol receiving means, with use of a feedback between the compressor and the decompressor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

Regarding claim 6, Jonsson discloses substantially the invention as claimed a method of optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the method comprising:

using a first algorithm in conjunction with a compressing device to decide if the current packet should be compressed; using a second algorithm in conjunction with the compressing device to decide which packets out of packets sent compressed are to be used to update a buffer of the compressing device (see col. 11, lines 10-19; context updating between first and second packet communication station);

signaling from the compressing device to a decompressing device such that the decompressing device knows which of the packets out of the packets sent are to be included in the compression history; and using the decompressing device and a packet

sequence number assigned by a compressor to update a buffer thereof in synchronization with the compressing device (see figure 2, col. 4, lines 41-49).

Jonsson does not explicitly discloses wherein said compression history and first and second algorithm in conjunction with a compression device. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm in conjunction with a compression device (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 7, the limitations of this claim has already been addressed (see claim 2 above).

Regarding claim 8, the limitations of this claim has already been addressed (see claim 4 above).

Regarding claim 9, the limitations of this claim has already been addressed (see claim 3 above).

Regarding claim 10, the limitations of this claim has already been addressed (see claim 5 above).

Regarding claim 11, Jonsson discloses substantially the invention as claimed above a compression device for optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:
updating means for updating the compression history selectively, the updating means having implemented and processing a first algorithm related to whether a packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history; and storing means, operably connected to the updating means, for storing the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).

Jonsson does not explicitly discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 12, the combination of Jonsson and Banerji disclose the device according to claim 11, further comprising monitoring means for monitoring an acknowledgment signaling of a Transmission Control Protocol receiving means, wherein the monitoring means is operably connected to the updating means (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

Regarding claim 13, the combination of Jonsson and Banerji disclose the device according to claim 12, wherein said monitoring means is adapted to be enabled to safely infer a subset of a first context at a decompressor by monitoring Transmission Control Protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 7, lines 20-25, figure 2; Banerji: see par. 0010-0011).

Regarding claim 14, the combination of Jonsson and Banerji disclose the device according to claim 11, further comprising establishing means for establishing a

feedback between the compression device and a decompression device, wherein the establishing means is operably connected to the updating means (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

Regarding claim 15, Jonsson substantially discloses the invention as claimed a compression device for optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:
signaling means for signaling to a decompression device which of a first set of packets are to be included in the compression history, the signaling means having implemented and processing a first algorithm used to decide if the current packet should be compressed (see figure 2, col. 4, lines 41-49); buffer means, operably connected to the signaling means, for storing the compression history (see col. 6, lines 37-42; storage); and processing means for having implemented and processing a second algorithm, wherein the second algorithm is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update the buffer means, wherein the processing means is operably connected to the signaling means (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However

in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 16, the limitations of this claim has already been addressed (see claim 12 above).

Regarding claim 17, the limitations of this claim has already been addressed (see claim 13 above).

Regarding claim 18, the limitations of this claim has already been addressed (see claim 14 above).

Regarding claim 19, Jonsson substantially discloses the invention as claimed a decompression device for optimizing compression efficiency in a packet data

communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:

receiving means for receiving signals from a compression device indicating which packets are to be included in the compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); buffer means, operably connected to the receiving means, for storing the compression history (see col. 6, lines 37-42; storage); and processing means for processing a packet sequence number for updating the buffer means in synchronization with the compression device, wherein the processing means is operably connected to the receiving means (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly discloses wherein said compression history. However in the same field of invention Banerji discloses wherein said compression history (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 20, the combination of Jonsson and Banerji disclose the device according to claim 19, further comprising forwarding means for forwarding an acknowledgment signaling of a Transmission Control Protocol receiving means to the compression device, wherein the forwarding means is operably connected to the receiving means (see Jonsson: figure 6, col. 6, lines 53-60, col. 2, lines 35-40; Banerji: see par. 0010-0011).

Regarding claim 21, the combination of Jonsson and Banerji disclose the device according to claim 19, further comprising establishing means for establishing a feedback between the compression device and the decompression device, wherein the establishing means is operably connected to the receiving means (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

Regarding claim 22, Jonsson discloses substantially the invention as claimed a compression device for optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:

a processor configured to allow for updating the compression history selectively, the processor having implemented and processing a first algorithm related to whether a

packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history; and

a memory unit, operably connected to the processor, for storing the compression history (see col. 11, lines 10-19, col. 6, lines 37-42; context updating between first and second packet communication station).

Jonsson does not explicitly discloses wherein said a processor, compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said a processor (see par. 0047; a processor 603, figure 6), compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 23, Jonsson discloses substantially the invention as claimed a compression device for optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for

compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:

a signaling unit configured to signal a decompression device which of a first set of packets are to be included in the compression history, the signaling unit having implemented and processing a first algorithm used to decide if the current packet should be compressed (see figure 2, col. 4, lines 41-49); a buffer, operably connected to the signaling unit, configured to store the compression history (see col. 6, lines 37-42; storage); and a processor configured to have implemented and to process a second algorithm, wherein the second algorithm is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update the buffer, wherein processor is operably connected to the means for signaling (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system Motivation for doing so

would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 24, Jonsson discloses substantially the invention as claimed a decompression device for optimizing compression efficiency in a packet data communication where a compression history of previous packets is used for compression of a current packet (see abstract, col. 2, lines 20-33; packet communication that utilize header compression/decompression and compression efficiency description), the device comprising:
a receiver configured to receive signals from a compression device indicating which packets are to be included in the compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); a buffer, operably connected to the receiver, configured to store the compression history (see col. 6, lines 37-42; storage); and a processor configured to process a packet sequence number for updating the buffer in synchronization with the compression device, wherein the processor is operably connected to the receiver (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly discloses wherein said compression history. However in the same field of invention Banerji discloses wherein said compression history (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see form PTO-892 (Notice of Cited Reference) for a list of more relevant prior arts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Umar Cheema whose telephone number is 571-270-3037. The examiner can normally be reached on M-F 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn, Jr. can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

uc

WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100